

Antenna specification

Antenna Sample Confirmation From

|                  |                                                                                                    |                   |           |                       |              |
|------------------|----------------------------------------------------------------------------------------------------|-------------------|-----------|-----------------------|--------------|
| Name of supplier | ShenZhen Aihui Technology Co. , Ltd                                                                |                   |           |                       |              |
| Customer name    | Ji mo ke                                                                                           |                   |           |                       |              |
| Sample name      | Mini PC                                                                                            |                   |           |                       |              |
| model            |                                                                                                    |                   |           |                       |              |
| Sample size      | Main antenna: 55mm 4th generation terminal black<br>Sub-antenna: 75mm 4th generation terminal grey |                   |           |                       |              |
| Inspection item  | Performance test                                                                                   | Visual inspection | Structure | In the news           | Test results |
|                  |                                                                                                    |                   |           |                       |              |
| Notes            |                                                                                                    |                   |           |                       |              |
| Quality Audit    |                                                                                                    | Project Audit     |           | Business confirmation |              |

The following is to be completed by the client

Customer  
feedback

Customer  
signature/seal



date:

## Antenna Test Report

Test Unit: Shenzhen Aihui Technology Co. , Ltd.

Materials

FPC

Antenna  
form

PIFA

Polarization mode

Linear

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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                    |           |     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|-----------|-----|
| Application scenario                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 2400Mhz-2500Mhz<br>5100Mhz-5850Mhz                 |           |     |
| Working band                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 2400Mhz-2500Mhz<br>5100Mhz-5850Mhz                 | VSWR      | ≤2  |
| Power                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Max: 2W                                            | Impedance | 50Ω |
| Gain                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 2400 -2500 MHz: 1.65dBi<br>5100 -5850 MHz: 1.41dBi |           |     |
| Test Equipment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | HPE5071C、Shielding Room、3D automatic turntable     |           |     |
| <p><b>Antenna Description::</b></p> <p><b>1. Grounding processing and picture description: no</b></p> <p><b>2. Need to change the motherboard to match: no</b></p> <ul style="list-style-type: none"><li>● Test voltage: 3.6V, check the antenna contact is good before testing.</li><li>● The RF cable of the integrated tester is kept in a natural state and can not be curled.</li></ul> <p>Specification:test the specified power level, all indicators must conform to the specifications.</p> |                                                    |           |     |

1. Project Image
2. Test Fixture
3. Antenna matching circuit
4. S11 test
5. Antenna passive efficiency and gain
6. Darkroom test equipment and data
7. Schematic diagram of antenna assembly
8. Antenna environment handling
9. Antenna mass production index
10. Structural drawing

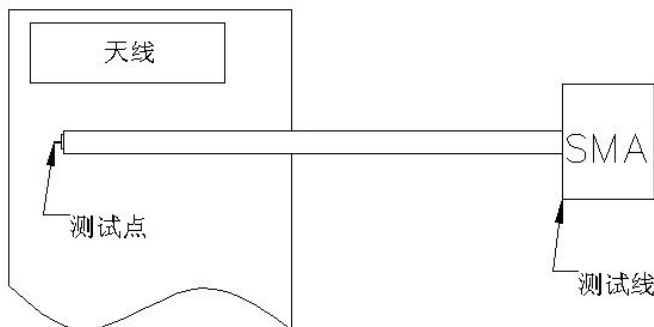
## 1.Project Image

The final verification antenna performance prototype in our company for at least one year, easy to analyze and solve the problem of antenna mass production, to ensure the quality of antenna shipment

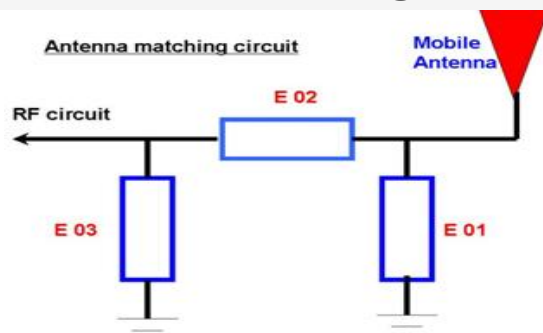
## 2.Test Fixture

Objective: to test the passive parameters of antenna as accurately as possible. Making

Method: the handset is made of a 50 ohm coaxial cable, one end of which is connected to the test point of the back end of the matching circuit of the handset motherboard (front end of the RF test hole) , and the other end is connected to the SMA joint. The diagram is as follows:



## 3、 Antenna matching circuit



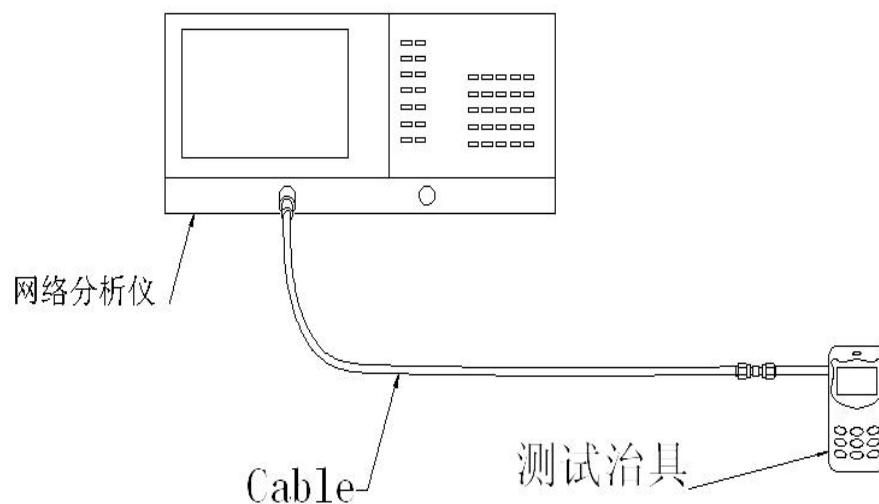
**Modify**

| E01 | E02 | E03 |
|-----|-----|-----|
| No  | No  | No  |

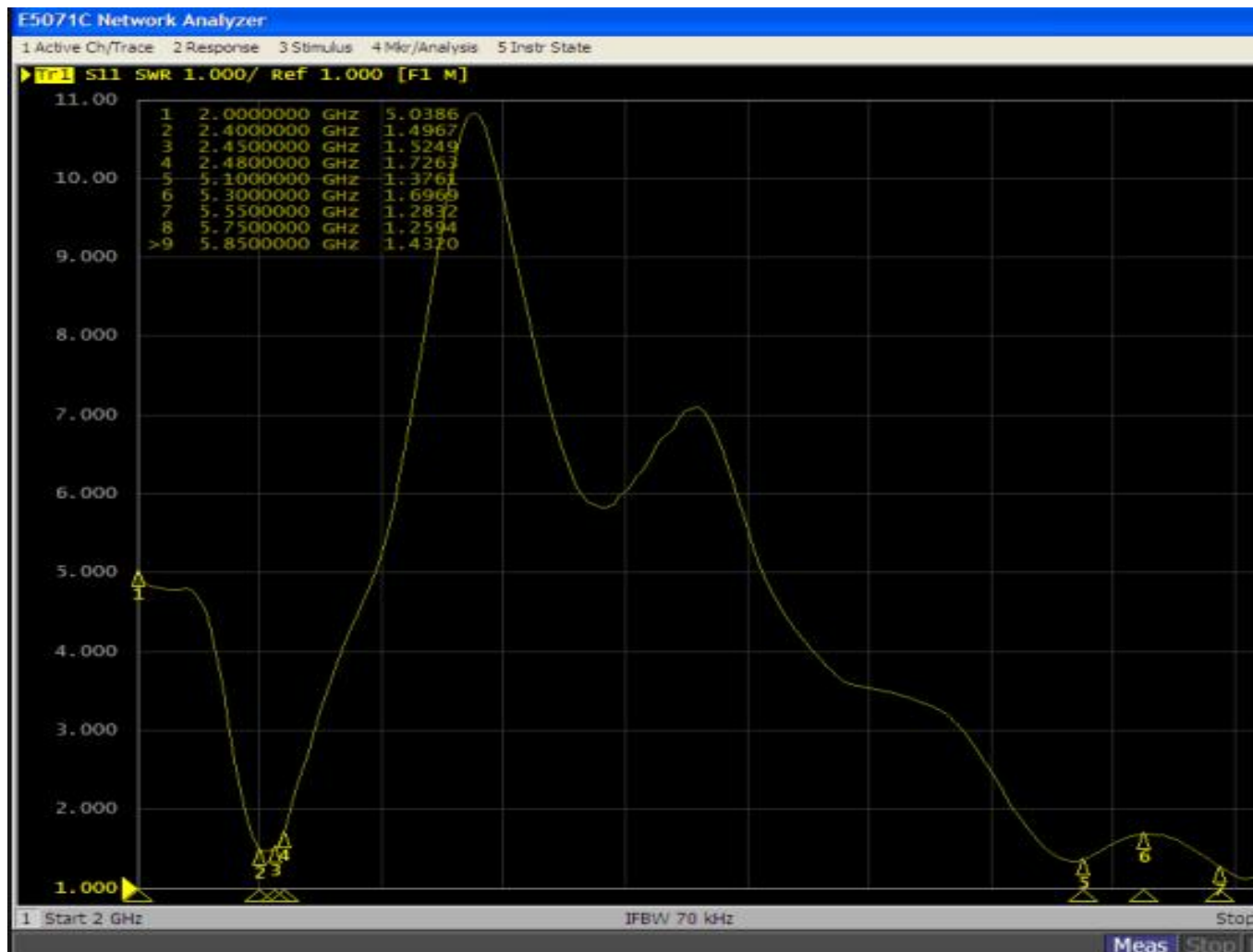
Note: The match is unmodified.

## 4.S11 test

4.0 4.0s11 test method description of test equipment: Network Analyzer (E5071C) test method: a 50 ohm CABLE is used to export from the instrument test port. The SMA connector for connecting the handset is calibrated using a calibration piece, record the echo loss and standing wave ratio corresponding to the relevant frequency points. The test schematic is as follows:



## 4.1 SWR



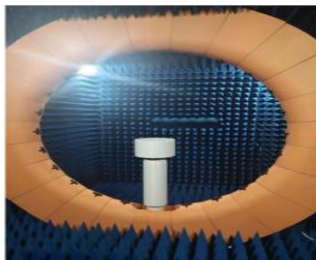
## 5. Test Equipment

Test system: shielded darkroom

The temperature was  $22^{\circ}\text{C} \pm 3^{\circ}\text{C}$  and the humidity was  $50\% \pm 15\%$

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Test equipment: when testing passive data, use the Network analyzer AGILENTE5071C  
to test active data, use the omnibus CMW500



## 6.Active antenna test data

### Test data:

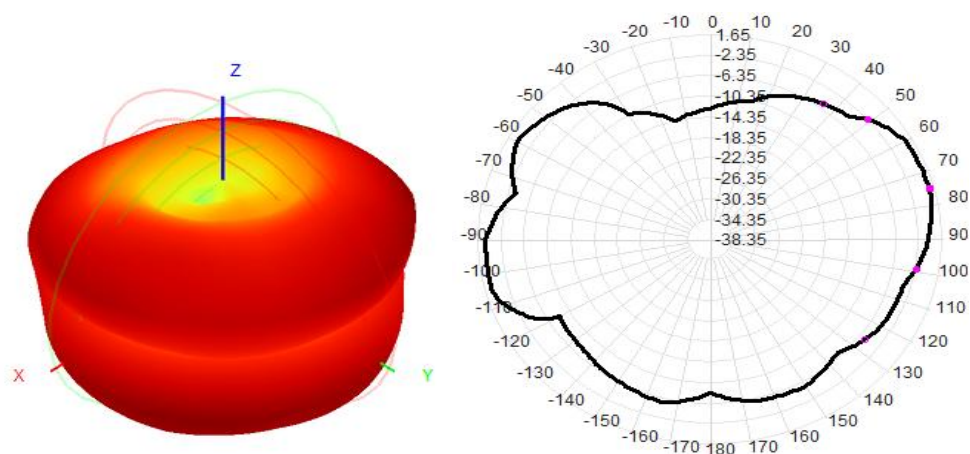
WIFI 2.4G

| Freq(MHz) | Efficiency (%) | Gain (dBi) |
|-----------|----------------|------------|
| 2400      | 55.25          | 1.25       |
| 2410      | 55.41          | 1.47       |
| 2420      | 57.65          | 1.35       |
| 2430      | 59.65          | 1.44       |
| 2440      | 61.41          | 1.54       |
| 2450      | 60.54          | 1.52       |

Address: 402TEL: 0755-23203435fax: 0755-23203435, Block C, Juxin Science and  
Technology Industrial Park, Nanchang community, xixiang, Baoan District, Shenzhen

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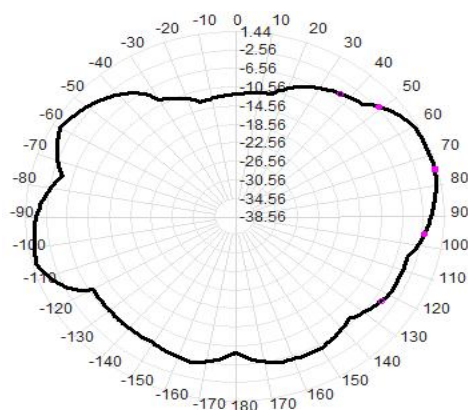
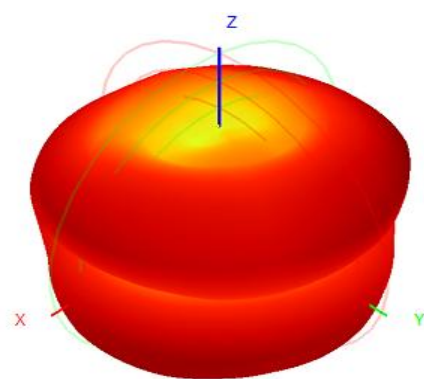
|      |       |      |
|------|-------|------|
| 2460 | 62.63 | 1.44 |
| 2470 | 64.15 | 1.65 |
| 2480 | 59.64 | 1.23 |
| 2490 | 55.25 | 1.25 |
| 2500 | 55.41 | 1.47 |



| Test data: |                |            |
|------------|----------------|------------|
| WIFI 5.8G  |                |            |
| Freq(MHz)  | Efficiency (%) | Gain (dBi) |
| 5100       | 59.54          | 1.41       |
| 5200       | 57.85          | 1.30       |
| 5300       | 59.41          | 1.25       |
| 5400       | 54.71          | 1.40       |

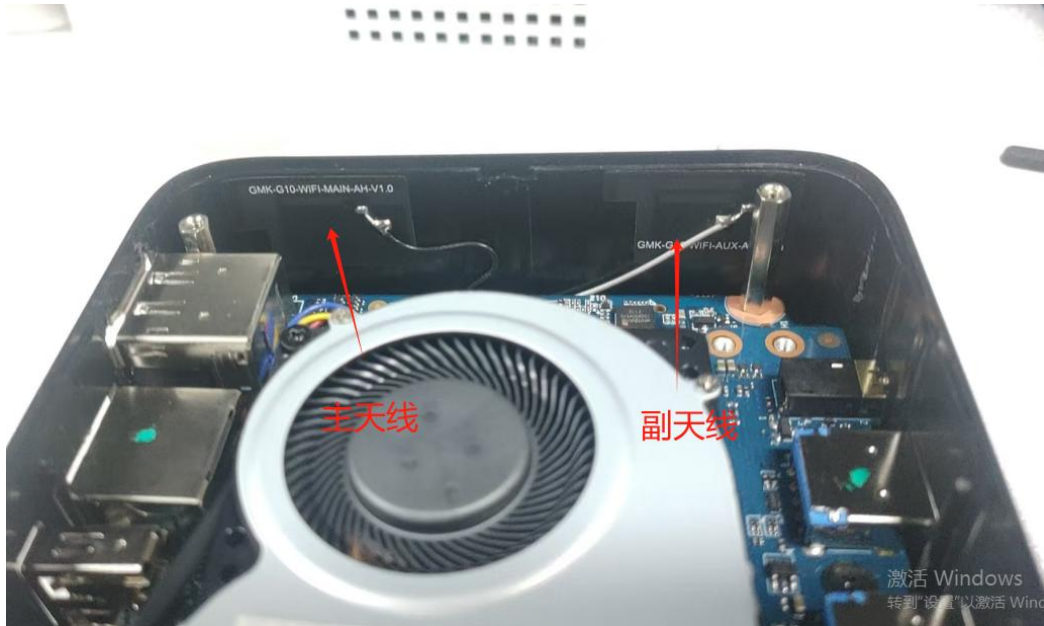
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|      |       |      |
|------|-------|------|
| 5500 | 55.63 | 1.21 |
| 5600 | 57.15 | 1.31 |
| 5700 | 59.65 | 1.05 |
| 5800 | 60.22 | 1.30 |
| 5850 | 61.41 | 1.25 |



| Frequency Band | 2.4GWIFI-B 模 |       |        | 5GWIFI-A 模  |       |        |
|----------------|--------------|-------|--------|-------------|-------|--------|
| channel        | L            | M     | H      | L           | M     | H      |
| TRP            | 12.52        | 13.44 | 13.65  | 12.63       | 12.44 | 10.52  |
| TIS            |              |       | -72.25 |             |       | -68.14 |
| Frequency Band | 2.4WIFI-G 模  |       |        | 2.4WIFI-N 模 |       |        |
| channel        | L            | M     | H      | L           | M     | H      |
| TRP            | 11.63        | 11.25 | 12.40  | 11.25       | 11.41 | 11.06  |
| TIS            |              |       | -68.52 |             |       | -66.30 |

## 7. Antenna environment handling



The original environment, we do not do processing

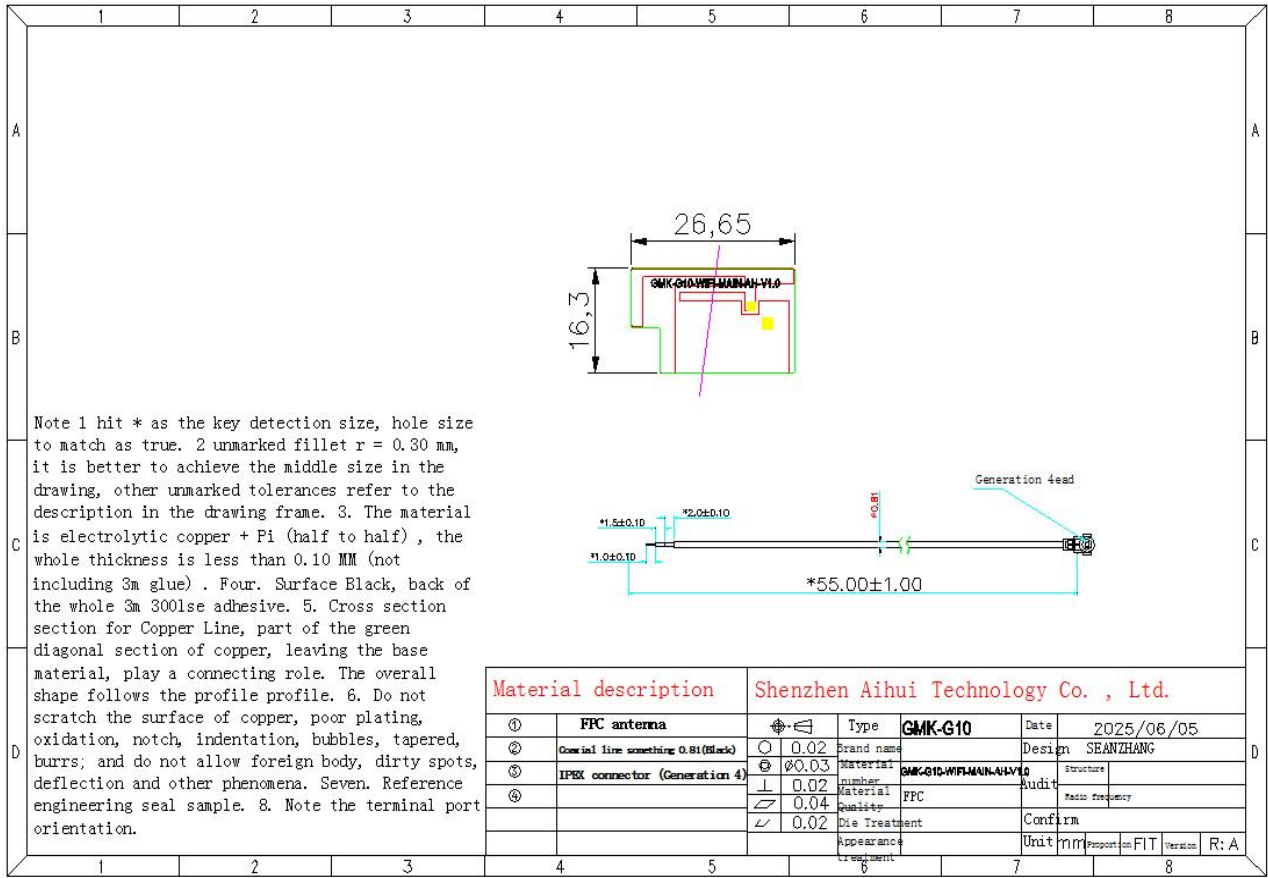
## 8. Antenna mass production index

When the antenna is mass-produced, the standing wave ratio is taken as the mass-produced test standard.

Based on the differences of the project itself, the following criteria are given:

|                                        |                                                                               |
|----------------------------------------|-------------------------------------------------------------------------------|
| Frequency                              | Standard for volume production                                                |
| 2400 MHZ -2500MHZ<br>5100 MHZ-7200 MHZ | VSWR (Mass Production performance) &<br>LT; VSWR(recognition performance) 0.5 |

10. Structural drawings



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